

End Semester Examination, Dec. 2021
B.Sc. (FS&T) - Third Semester
FOOD MICROBIOLOGY AND FOOD SAFETY (BFST-DS-302)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 Briefly explain the importance of microbiology and classification of microbes based on morphological structure and staining characteristics. **20**

PART-A

- Q.2 Explain growth curve to include Stages, characteristics and factors affecting microbial growth. [CO1][L2]**20**
- Q.3 Explain the importance and sources of food spoilage causing microbes in milk, meat, fish and canned products. [CO2][L3]**20**
- Q.4 Define fermentation, types, application of fermentation and health benefits of fermented foods. [CO2][L2]**20**

PART-B

- Q.5 Explain the method of production of sauerkraut, cheese, yoghurt and tempeh. [CO4][L3]**20**
- Q.6 Write in detail about food borne diseases, food infection and food intoxication. [CO3][L3]**20**
- Q.7 Explain in detail about GMP, GHP and HACCEP. [CO4][L3]**20**

End Semester Examination, Dec. 2021
OPEN ELECTIVE – COMMON FOR ALL BRANCHES
ERGONOMICS AND HUMAN FACTORS (PT-OE-003)

Time: 2 hrs.

Max Marks: **50**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

- Q.1 a) Define 'MSD'. [CO1] [L1]
b) What is good posture? Write its characteristics for sitting. [CO1] [L1]
c) What do you understand by cognitive behavior? [CO1] [L1]
d) What is carpal tunnel syndrome? What would be the ergonomic advice to prevent CTS? [CO1] [L2]
e) What is posture? What factors contribute towards normal posture? [CO1] [L2] **2×5**

PART-A

- Q.2 Do you accept conditions or behaviours that you wouldn't have accepted a few years ago? How they really impact your work style? [CO5] [L3] **10**
- Q.3 Why training is an important task in the ergonomic process? [CO6] [L4] **10**
- Q.4 Explain the human capabilities and limitations in terms of occupational ergonomics. [CO4] [L5] **10**

PART-B

- Q.5 Explain the role of exercises on different physiological functions that would help in prevention of diseases, and promotes health and wellness. [CO5] [L5] **10**
- Q.6 How could be the work-related issues can be managed with the modification of Work environment? Explain in detail about various factors contributing to it. [CO4] [L3] **10**
- Q.7 What do you understand by occupational hazards in ergonomics? Explain various types of occupational hazards. [CO2] [L2] **10**

End Semester Examination, Dec. 2021
B.Sc. (FS&T) - Third Semester
TECHNOLOGY OF SPICES, HERBS AND PLANTATION CROPS
(BFST-DS-306)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Discuss scope and importance of spices, herbs and plantation crops in India. **20**

PART-A

Q.2 Give a detailed classification of spices, herbs and plantation crops. [CO-1] [L- 2] **20**

Q.3 Write short notes on processing of:

a) Turmeric.

b) Nutmeg.

[CO- 4][L-1] **20**

Q.4 Outline the procedure involved in processing and storage of culinary herbs.

[CO- 3] [L- 4] **20**

PART-B

Q.5 Throw some light on value added products of spices. [CO- 4] [L-3] **20**

Q.6 Justify the functional role of herbs by giving suitable examples. [CO- 2] [L- 5] **20**

Q.7 Summarize the steps involved in harvesting and processing of tea. [CO- 1] [L- 5] **20**

End Semester Examination, Dec. 2021
B. Sc. (N&D) - Third Semester
FUNDAMENTAL OF FOOD SCIENCE (BND-DS-301)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 Explain the structure of cereal grain along with uses of each layer. Discuss various cereal products and its nutritive value. **20**

PART-A

- Q.2 Evaluate the changes occurring in starch granules when heated with water or dry. What are these processes called? Explain in detail. [CO2][L-5]**20**
- Q.3 What is the crystallization process of sugars? Explain the factors affecting crystallization. Write a short note on various types of sugars and artificial sweeteners. [CO1][L-1]**20**
- Q.4 Apple and potato turns brown once cut and kept open in the air similarly milk also turns brown upon heating for a longer period of time. Analyze these changes occurred in food and discuss the same in detail. Explain the ways in which you may prevent this. [CO3][L-4]**20**

PART-B

- Q.5 What is pasteurization? Explain different methods of pasteurization. [CO3][L-1]**20**
- Q.6 Define rancidity and hydrogenation process in fats and oils. Explain types of rancidity and hydrogenated products available in market. [CO2][L-1,2]**20**
- Q.7 Illustrate the role of the different parts of egg using its diagram. Discuss the spoilage, storage and preservation of fish. [CO2][L-3]**20**

End Semester Examination, Dec. 2021
B.Sc. (N&D) - Third Semester
COMMUNITY HEALTH NUTRITION (BND-DS-302)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1 Prevalence of one nutritional problem in India and what is the role of nutritionist and what are the strategically approach have been taken care of government to alleviate problem.

20

PART-A

- Q.2 What is the concept of community nutrition and conceptual framework of malnutrition status in India? [CO1][L2]**20**
- Q.3 What are the strategies to improve nutrition and health through food, education and health in schools? [CO][L2]**20**
- Q.4 Write is the details of national health policy and Objectives. [CO3][L2]**20**

PART-B

- Q.5 What are the objectives of ICDS programme and Mid day meal programme. [CO3][L2]**20**
- Q.6 Role of National and International organizations: ICMR, ICAR, NIN. [CO4][L2]**20**
- Q.7 Identify one nutrition problem in the community, planning, implementing and how to evaluate the programme. [CO2][L6]**20**

End Semester Examination, Dec. 2021
B.Sc. (N&D) - Third Semester
FOOD SCIENCE AND TECHNOLOGY (BND-DS-307)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 What are the chemical changes that occur in the grains during storage? **20**

PART-A

Q.2 Throw some light on post harvest losses of cereal grains. [CO-2] [L- 3] **20**

Q.3 Some constituents in legumes reduce the nutritive value and also toxic to human health. Comment on the statement. [CO- 2][L-3] **20**

Q.4 Discuss through flowchart the steps involved in processing of oils. [CO- 4] [L-2] **20**

PART-B

Q.5 What is pasteurization? Explain different methods of pasteurization in detail. [CO- 3] [L-1] **20**

Q.6 Summarize the process of ripening of fruits by discussing the changes in pectin. [CO- 1] [L- 5] **20**

Q.7 Classify packaging materials and discuss their examples. [CO- 3] [L- 4] **20**

End Semester Examination, Dec. 2021
B. Sc. (N&D) - Third Semester
INTRODUCTION TO HERBAL SCIENCE (BND-DS-310)

Time: 3 hrs.

Max Marks: **100**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against question:

Q.1 What are herbs? Give their classification. **20**

PART-A

Q.2 Throw light on role of herbs in our daily life. [CO-3] [L-3] **20**

Q.3 Differentiate between 'indoor' and 'outdoor' gardening. Elaborately discuss the methods and precautions during setting up a herbal garden. [CO-2] [L-2] **20**

Q.4 Summarize the use of herbal home remedies for hair and skin related issues. [CO-4] [L-5] **20**

PART-B

Q.5 Discuss the benefits of following herbs: *Rosa centifolia*, *Piper betel*, *Ocimum sanctum*, *Curcuma longa*. [CO-2] [L-2] **20**

Q.6 Illustrate with examples the use of herbs as a food supplement. [CO-2] [L-4] **20**

Q.7 Use of herbs against common cold and cough is the primary treatment that we are following from many years. Justify the statement. [CO-4] [L-5] **20**

End Semester Examination, Dec. 2021

B.Sc. (N&D) - Fifth Semester

STATISTICS AND RESEARCH METHODOLOGY (BND-DS-502)

Time: 3 hrs

Max Marks: **100**

No. of pages: 3

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part A** and **TWO** questions from **Part B**. Each question carries equal marks.

Q.1 Describe the various steps of research process in detail. **20**

PART-A

Q.2 Differentiate between Primary and Secondary data collection. Discuss any two methods of data collection in detail. [CO2][L4]**20**

Q.3 Write the coding of following data:

GENERAL INFORMATION:

Name (Optional):

Sex:

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>
Other	<input type="checkbox"/>

Age:

25 – 30	<input type="checkbox"/>
31 – 35	<input type="checkbox"/>
36 – 40	<input type="checkbox"/>
41 – 45	<input type="checkbox"/>

Nationality:

Indian:	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Religion:

Hindu:	<input type="checkbox"/>
Muslim:	<input type="checkbox"/>
Sikh:	<input type="checkbox"/>
Christian:	<input type="checkbox"/>
Jain:	<input type="checkbox"/>
Any other:	<input type="checkbox"/>

Education level:

Undergraduate	<input type="checkbox"/>
Graduate	<input type="checkbox"/>
Postgraduate	<input type="checkbox"/>

End Semester Examination, Dec. 2021

B.Sc. (N&D) - Fifth Semester

FUNCTIONAL FOODS (BND-DS-504)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 What are functional foods? Give their classification in detail. **20**

PART-A

Q.2 Throw light on role of functional foods in preventing diseases. [CO1][L-3]**20**

Q.3 Differentiate between 'prebiotics' and 'probiotics' in detail. [CO21][L-2]**20**

Q.4 Define 'resistant starch'. Classify resistant starch and write their characteristics. [CO2][L-4]**20**

PART-B

Q.5 Discuss various mechanisms of probiotic action on human intestine cells in tabular form. [CO3][L-2]**20**

Q.6 Evaluate the role of 5 foods in maintaining microflora content in human intestine. [CO4][L-5]**20**

Q.7 Write short notes on:
a) Organosulfur compounds.
b) Phytates. [CO1][L-1]**10x2**

End Semester Examination, Dec. 2021
B.Sc. (N&D) - Fifth Semester
NUTRITION AND FOOD SECURITY (BND-DS-505)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Explain 'Food Security' and 'Agricultural Revolution India'. Also explain role of PDS in food security. **20**

PART-A

Q.2 How climate changes affect food security in India? [CO1][L-2]**20**

Q.3 What is the role of women in family and social security in India? [CO1][L-2]**20**

Q.4 Explain the role of public sector program influences the food and nutrition security. [CO3][L-2]**20**

PART-B

Q.5 What are the major programs and partnership for improving food and nutrition security? [CO3][L-2]**20**

Q.6 Write in details of national food security Act 2013. [CO4][L-2]**20**

Q.7 How food security and nutritional outcome will improve the nutritional status among adults and children. [CO4][L-2]**20**

End Semester Examination, Dec. 2021
B.Sc. (N&D) - Fifth Semester
HEALTH AND WEIGHT MANAGEMENT (BND-DS-506)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Define underweight, overweight and obesity, etiological factors and life style modifications. **20**

PART-A

Q.2 Define weight management theories-fat cell theory and set point theory. [CO1][L-2]**20**

Q.3 What are the type of obesity. Explain the nutritional management of obesity. [CO1][L-2]**20**

Q.4 What are the component and measurements of obesity? Write in details one etiological factors of obesity. [CO3][L-2]**20**

PART-B

Q.5 Write prevalence and health hazards of underweight. [CO3][L-2]**20**

Q.6 What are the etiological factors and nutritional management of underweight? [CO4][L-2]**20**

Q.7 What are the of different surgical procedure for weight management. [CO4][L-3]**20**

End Semester Examination, Dec. 2021
B. Sc. (N&D) - Fifth Semester
FOOD MARKETING AND CONSUMERISM (BND-DS-507)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 Justify the statement "consumer knowledge plays a significant role in brand value of any product". **20**

PART-A

- Q.2 Illustrate the methods of studying consumer behavior. **20**
- Q.3 What do you understand by brand equity? Discuss the value of brands in marketing strategy. **20**
- Q.4 What is retailing? Discuss the various steps in purchase process. **20**

PART-B

- Q.5 What are customer centric organization? Also, discuss their characteristics. **20**
- Q.6 What is Maslow's hierarchy of needs? Explain in detail using a suitable chart. **20**
- Q.7 What is the importance of customer satisfaction? Also, discuss the various factors affecting it. **20**

End Semester Examination, Dec. 2021
Bachelor of Physiotherapy – Seventh Semester
CARDIOPULMONARY AND CARDIOPULMONARY SURGERY (BPT-701)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Answer in brief:

- | | |
|--|-----------------------|
| a) What is pneumoconiosis? | [CO3][L1] |
| b) Draw the diagram for Thoracic. | [CO3][L6] |
| c) What is Bronchitis? | [CO3][L1] |
| d) Bronchopulmonary Fistula | [CO3][L1] |
| e) What is Pneumothorax? | [CO2][L2] |
| f) Briefly explain Coronary artery by-pass grafting. | [CO2][L5] |
| g) What are Type-II respiratory failure? | [CO1][L1] |
| h) Explain BUERGER'S disease. | [CO2][L4] |
| i) Write about Pneumothorax. | [CO1][L5] |
| j) Levine sign. | [CO2][L5] 2x10 |

PART-A

Q.2 Explain the clinical manifestation of ischemic heart disease write about the medical management and therapeutic management of the same. [CO3][L5] **20**

Q.3 Write about tuberculosis, clinical manifestation and direct observed therapy for TB. [CO2,3][L5] **20**

Q.4 Discuss the preoperative and post-operative management of the Valvotomy in detail. [CO1,2][L5] **20**

PART-B

Q.5 Write a note on 'Infective endocarditis' in detail. [CO3][L4] **20**

Q.6 Explain the following:

- | | |
|--|-------------------------|
| a) Write about flail chest. | |
| b) Enumerate the Weaning off criteria of ventilator. | [CO2,3][L5] 10x2 |

Q.7 Explain the following:

- | | |
|---|-----------------------|
| a) What is decortications? | |
| b) Write the procedure of tracheal suction. | [CO3][L4] 10x2 |

End Semester Examination, Dec. 2021
Bachelor of Physiotherapy—Seventh Semester
CARDIOPULMONARY PHYSIOTHERAPY (BPT-702)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

- Q.1
- a) Enumerate lung volumes and Explain FEV1 and Significance of FEV1 and FVC ratio.
 - b) Differentiate between 'obstructive' and 'restrictive lung' disease.
 - c) Briefly explain stages of ACBT.
 - d) What is pleurisy?
 - e) Define 'TOFF'.
 - f) Differentiate between 'backward' and 'forward' heart failure.
 - g) Briefly explain thrombophlebitis.
 - h) Briefly explain difference between vesicular and bronchial breath sound.
 - i) What is pursed lip breathing?
 - j) Briefly explain rib spring technique.

2x10

PART-A

- Q.2 Explain in detail about bronchopulmonary segment with appropriate diagram also explain postural drainage position for bronchopulmonary segments of lower lobe. **20**
- Q.3 Explain autogenic drainage with stages also indications contraindication and technique of autogenic drainage. **20**
- Q.4 Explain congenital heart disease pathophysiology. Write stage wise Cardiac Rehab Protocol for the patient. **20**

PART-B

- Q.5 Patient undergone Lobectomy surgery, Write in detail day wise protocol of the Patient. **20**
- Q.6 A Patient having history of COPD. Explain Pathology and clinical features and physiotherapy treatment of the patient **20**
- Q.7 Explain Heart failure in detail and classify different heart failure. Explain physiotherapy treatment for heart failure. **20**

End Semester Examination, Dec. 2021
Bachelor of Physiotherapy – Seventh Semester
PEDIATRICS AND PEDIATRICS PHYSIOTHERAPY (BPT-703)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1
- | | |
|---|------------------------|
| a) Identify the condition in which koplik's spots are seen. | [CO3][L-2] |
| b) Contrast the significance of MORO reflex. | [CO2][L-4] |
| c) Differentiate between growth and development. | [CO2][L-4] |
| d) List any two types of PEM. | [CO4][L-1] |
| e) Define 'simian crease'. | [CO3][L-1] |
| f) Which protein is responsible for DMD? | [CO3][L-1] |
| g) Describe brushfield spots. | [CO3][L-2] |
| h) Name the instrument which is used to measure scoliosis. | [CO4,5][L-1] |
| i) Explain babinski sign. | [CO2][L-2] |
| j) State the name of the causative organism of malaria. | [CO3][L-1] 2x10 |

PART-A

- Q.2 Explain laws of growth. Discuss the factors affecting growth and development. [CO1,2][L-2] **20**
- Q.3 Contrast the clinical features of any one Genetic disorder along with its PT Management. [CO3][L-4] **20**
- Q.4 Differentiate between measles and chicken pox. Also, explain the features of any two types of childhood rheumatism. [CO3][L-4,2] **20**

PART-B

- Q.5 List the levels of prevention. Also, discuss them with suitable examples. What is the relationship between impairment, disability and handicap? [CO5][L-1,2] **20**
- Q.6 Discuss the clinical presentation and management of TB. [CO4,5][L-2] **20**
- Q.7 Differentiate between grand mal epilepsy and petit mal epilepsy along with formulation of management. [CO3][L-4,6] **20**

End Semester Examination, Dec. 2021

Bachelor of Physiotherapy – Third Semester

ELECTROTHERAPY-II (BPT-DS-303)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 Answer the following:
- a) What is moist heat? [CO2][L-1]
 - b) Classify wavelength of IRR. [CO3][L-1]
 - c) What are the indications of UVR? [CO3][L-2]
 - d) Difference between AC and DC current. [CO3][L-1]
 - e) Write a short note on electrical heating pads. [CO4][L-5]
 - f) Explain Testing of ultrasound. [CO2][L-1]
 - g) Full form of LASER. [CO2][L-1]
 - h) Enumerate types of UVR lamps. [CO3][L-3]
 - i) What is the frequency of IR? [CO1][L-1]
 - j) Define monochromaticity. [CO3][L-1]
- 2x10**

PART-A

- Q.2 Elaborate physiological effects of UVR. Explain in detail High pressure lamp and kromayer lamp with diagrams. [CO2][L-4]**20**
- Q.3 Explain the uses, indication and contraindications of IRR. Explain the production and sources of IRR. [CO3][L-4]**20**
- Q.4 What is short wave diathermy? Discuss its principle, type and size of electrodes of short wave diathermy. [CO23][L-5]**20**

PART-B

- Q.5 What is LILT? Explain the physical effects, contra indications and therapeutic uses of LASER. [CO4][L-2]**20**
- Q.6 What is biofeedback? Explain its effects, indications and contra indications. [CO1][L-2]**20**
- Q.7 What is PUVA? Write the technique of application with dosage. [CO3][L-6]**20**

End Semester Examination, Dec. 2021

Bachelor of Physiotherapy – Third Semester

EXERCISE THERAPY-II (BPT-DS-304)

Time: 3 hrs.

Max Marks: **100**

No. of pages *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 a) Define 'relaxation exercises'. Give an example.
b) Define 'fatigability'. What are the most suitable exercises for treating fatigue?
c) What are the types of crutch walking (4-point, 3-point, 2 point)?
d) Define 'Good posture'.
e) What is the PNF? [CO1][L-1]**4x5**

PART-A

- Q.2 Explain joint mobilization techniques in detail. [CO2][L-2]**20**
- Q.3 Define 'resistance exercises'. Explain the concept of resistance training for muscle strengthening. [CO5][L-4]**20**
- Q.4 Explain gluteus medius gait in detail including all the phases of the gait. [CO3][L-6]**20**

PART-B

- Q.5 Define 'balance'. Differentiate between static and dynamic balance. Elaborate various strategies required to maintain normal balance posture. [CO1][L-2]**20**
- Q.6 Write the application of principles of an aerobic conditioning program for patients with coronary disease. [CO3][L-3]**20**
- Q.7 What is postural drainage? Explain in detail with related indications and contraindications. [CO3][L-5]**20**

End Semester Examination, Dec. 2021

Bachelor of Physiotherapy – Third Semester

EXERCISE THERAPY-II (BPT-DS-304)

Time: 3 hrs.

Max Marks: **100**

No. of pages *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 a) Define 'relaxation exercises'. Give an example.
b) Define 'fatigability'. What are the most suitable exercises for treating fatigue?
c) What are the types of crutch walking (4-point, 3-point, 2 point)?
d) Define 'Good posture'.
e) What is the PNF? [CO1][L-1]**4x5**

PART-A

- Q.2 Write down the principles and techniques of PNF. [CO2][L-2]**20**
- Q.3 Write a short note on 'suspensions'. Write its indications and contraindications. [CO5][L-4]**20**
- Q.4 Write a detailed note on 'functional reeducation' and its application on ADL'S. [CO3][L-6]**20**

PART-B

- Q.5 Discuss on passive movements. Write the effect of exercises on human body. [CO1][L-2]**20**
- Q.6 Write the application of principles of an aerobic conditioning program for patients with coronary disease. [CO3][L-3]**20**
- Q.7 What is postural Drainage? Explain in detail with related indications and contraindications. [CO3][L-5]**20**

End Semester Examination, Dec. 2021

Bachelor of Physiotherapy – Fifth Semester

ORTHOPEDICS (BPT-DS-501)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part A** and **TWO** questions from **Part B**. Each question carries equal marks.

- Q.1
- a) Define grades of frozen shoulder. [CO1][L-1]
 - b) Write a short note on 'skeletal traction'. [CO2][L-1]
 - c) Write short note on 'Club Foot'. [CO3][L-2]
 - d) Define comminuted fracture. [CO2][L-1]
 - e) Describe the factors affecting fracture healing. [CO4][L-2]
 - f) Give any 2 indications of internal fixation. [CO2][L-2]
 - g) What is phantom pain? [CO3][L-1]
 - h) Define pathological fracture. [CO1][L-1]
 - i) What is subluxation? [CO2][L-2]
 - j) What is the ideal position of sling application for clavicle fracture? [CO1][L-2]
- 2x10**

PART-A

- Q.2 Elaborate the classification, surgical and treatment objectives, and goals for fracture neck of femur for a male patient of 60 yrs of age. [CO3,4][L-5]**20**
- Q.3
- a) Discuss in detail the stages of fracture healing. [CO2][L-2]**10**
 - b) Elaborate the Clinical Features, Classification, Pathogenesis, Investigations, Differential Diagnosis, Complications and Management of PIVD of lumbar spine. [CO3][L-3]**10**
- Q.4 Discuss in detail the types of amputations. What are the associated complications and management of complications for below knee amputation? [CO2][L-2]**20**

PART-B

- Q.5 Discuss the pathology, clinical features, examination, differential diagnosis and management of Pott's spine. [CO3][L-2]**20**
- Q.6 Define Fracture. Classify Fracture shaft of femur. Explain in detail the management of open fracture and closed fracture. [CO2][L-3]**20**
- Q.7 Explain in details the indications, complications of discectomy, laminectomy and spinal fusion surgery. [CO4][L-2]**20**

End Semester Examination, Dec. 2021
Bachelor of Physiotherapy – Fifth Semester
APPLIED BIOMECHANICS, KINESIOLOGY AND ERGONOMICS
(BPT-DS-503)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part A** and **TWO** questions from **Part B**. Each question carries equal marks.

Q.1 Short answer questions.

- a) Difference between Genu Vaigus and genu varus. [CO5][L4]
- b) Active insufficiency and passive insufficiency. [CO1][L2]
- c) Subtalar joint during weight bearing and non-weight bearing position. [CO2][L5]
- d) Open chain and close chain response of Lumbo-pelvic rhythm in relation with hip joint. [CO][L4]**5x4**

PART-A

- Q.2 Discuss in detail about the articulating structure of C6-C7 joint. Also discuss the kinematics, kinetics and factors contributing for the stability of C6-C7 flexion and extension. [CO2][L5]**20**
- Q.3 Explain the structure configuration of hip joint in relation to weight bearing in unilateral and bilateral stance. [CO5][L3]**20**
- Q.4 Describe in detail about the biomechanics of talocrural joint and subtalar joint. [CO2][L3]**20**

PART-B

- Q.5 Compare the biomechanics (characteristics, cause and management) during sway back and straight back postural abnormality. [CO2][L5]**20**
- Q.6 Write the angle changes and major muscle activity at hip, knee and ankle joint during different gait phases. [CO4][L2]**20**
- Q.7 Compare the biomechanics (kinematics and kinetics) of stoop lifting and squat lifting. [CO6][L5]**20**

End Semester Examination, Dec. 2021
Bachelor of Physiotherapy – Fifth Semester
CONSULTATION AND SCREENING (BPT-DS-504)

Time: 2 hrs.

Max Marks: **50**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 a) Frenkel's exercises are devised to improve co-ordination by use of sight, sound and touch in case of ataxia due to _____. [CO1][L-2]
b) PNF was developed by _____. [CO2][L-1]
c) Which of the following PNF techniques is used in Cerebellar ataxia? [CO3][L-1]
d) What is the correct progression of ambulation by a pair of auxiliary crutches? [CO3][L-1]
e) Elbow crutches are indicated for the persons with _____. [CO3][L-1] **2x5**

PART-A

- Q.2 Define 'consultation and screening'. Discuss its role in physical therapy assessment and treatment in any musculoskeletal condition. [CO4][L-4] **10**
- Q.3 Discuss in detail the WCPT guidelines for physical therapy services. [CO2][L-5] **10**
- Q.4 Enumerate the detailed assessment of a patient with knee pain. [CO4][L-4] **10**

PART-B

- Q.5 List down the detailed guidelines for physician referral. [CO3][L-2] **10**
- Q.6 Write in detail about various critical signs and symptoms that signal appropriateness for physical therapy examination. [CO5][L-6] **10**
- Q.7 How would you interpret the screening findings? What would be the plan of care for a patient with knee osteoarthritis? Write in detail. [CO5][L-6] **10**

End Semester Examination, Dec. 2021
M. Sc. (Nutrition and Dietetics) – Third Semester
ADVANCED NUTRITIONAL SCIENCES (MND-DS-306)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Illustrate the reason behind bioavailability of nutrients. Discuss in detail. **20**

PART-A

Q.2 What are the Potential Health Benefits of Food Components other than nutrients?
[CO1][L-1]**20**

Q.3 Discuss the Role of specific nutrients in controlling gene expression: Protein lipids, vitamins and minerals.
[CO2][L-2]**20**

Q.4 What is active and passive immunity? Analyze the role of Nutrition in immune function.
[CO3][L-5]**20**

PART-B

Q.5 Explain the different methods of evaluation of protein quality in detail. [CO4][L-4]**20**

Q.6 What is the relationship between nutrient interaction and bioavailability of nutrients? Discuss the impact of interaction on nutrient bioavailability. [CO4][L-6]**20**

Q.7 What are the functional foods? Discuss the role of functional foods in detail.
[CO1][L-3]**20**

End Semester Examination, Dec. 2021
M. Sc. (Nutrition and Dietetics) – Third Semester
SPORTS SUPPLEMENTS AND DOPING (MND-DS-309)

Time: 3 hrs.

Max Marks: **100**

No. of pages: **1**

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.*

Q.1 Define and classify sports supplements. Describe the role of sports supplements in performance enhancement and hazards involved in their consumption. **20**

PART-A

Q.2 Explain in detail about carbo-loading and its role in endurance performance. **20**
[CO-3] [L-3]

Q.3 Discuss the role of creatinine in sports performance. Explain the benefits and negative impacts of creatinine consumption. **20**
[CO-3] [L-4]

Q.4 What are the supplements that can be provided to young athletes? **20**
[CO-3] [L-5]

PART-B

Q.5 Stimulants that are prohibited by WADA 2021? Write in detail. **20**
[CO-2] [L-1]

Q.6 Enumerate ethical issues in doping. **20**
[CO- 1] [L- 2]

Q.7 Discuss in detail about various dope testing methods. **20**
[CO-4] [L-2]

End Semester Examination, Dec. 2021
M. Sc. (Nutrition and Dietetics) – Third Semester
MICROBIOLOGY OF FOOD (MNDF-DS-303)

Time: 3 hrs.

Max Marks: **100**

No. of pages: **1**

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.*

Q.1 Summarize the sources of contamination in food. [CO1][L3]**20**

PART-A

Q.2 What are microbes? Illustrate the characteristics of yeast and molds with the help of examples. [CO2][L3]**20**

Q.3 Discuss the factors responsible for food spoilage. [CO2][L2]**20**

Q.4 Outline the principle of low temperature preservation techniques. [CO3][L4]**20**

PART-B

Q.5 What do you understand by intoxication? Discuss the various food borne illnesses. [CO2][L1]**20**

Q.6 How BOD is different from COD? Explain. [CO3][L2]**20**

Q.7 What are mycotoxins? Also, write about the measures to control infection in foods caused by pathogenic organisms. [CO4][L1]**20**

End Semester Examination, Dec. 2021
M. Sc. (Nutrition and Dietetics) – Third Semester
FOOD AND NUTRITION SECURITY (MNDP-DS-301)

Time: 3 hrs.

Max Marks: **100**

No. of pages: **1**

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.*

Q.1 What are the challenges attaining food and nutrition security in India? Which are the techniques using to ensure to achieve nutrition security? **20**

PART-A

Q.2 What is the concept of food and nutrition security at national, regional, household and individual levels? [CO1][L2]**20**

Q.3 Write a short note on Impact of food distribution, access, availability. [CO1][L2]**20**

Q.4 Role of food and nutrition policy to improve nutrition and food security. [CO3][L2]**20**

PART-B

Q.5 Write two micronutrient programme how it will be benefited for women and children? [CO4][L2]**20**

Q.6 What are the importance of Bio-fortification and organic foods? [CO4][L2]**20**

Q.7 Write a detail of National plan of action of nutrition. What are the sectoral roles?[CO2][L6]

End Semester Examination, Dec. 2021
M. Sc. (Nutrition and Dietetics) – Third Semester
ASPECTS OF PUBLIC HEALTH NUTRITION (MNDP-DS-303)

Time: 3 hrs.

Max Marks: **100**

No. of pages: **1**

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.*

Q.1 Discuss concept and theories of health program planning? Write in details of National rural health mission? **20**

PART-A

Q.2 Write in details of public health Programme planning steps. [CO1][L2]**20**

Q.3 Define critical path method. [CO1][L2]**20**

Q.4 What is programme evaluation and review technique? [CO3][L2]**20**

PART-B

Q.5 Describe in detail about concept of health economics. Define cost benefit analysis. [CO3][L2]**20**

Q.6 What is health administration and management? What are the government health organizations? [CO4][L2]**20**

Q.7 Describe in detail about the Role of Niti Aayog in health sector. [CO4][L2]**20**

End Semester Examination, Dec. 2021
Master of Physiotherapy (Musculoskeletal) - Third Semester
**EVALUATION, DIAGNOSIS AND MANAGEMENT IN MUSCULOSKELETAL-
II (MPTM-DS-301)**

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1
- | | |
|---|------------------------|
| a) Define 'pathological fracture'. | [CO1][L-1] |
| b) What is subluxation? | [CO2][L-2] |
| c) What is the ideal position of sling application for clavicle fracture? | [CO1][L-2] |
| d) Give any three indications for nerve suturing. | [CO3][L-3] |
| e) Explain mini mental assessment scale. | [CO4][L-2] |
| f) What is cognitive impairment? | [CO1][L-2] |
| g) Name and give the use of any one upper limb assistive device. | [CO2][L-2] |
| h) Discuss the indications for spinal fusion surgery. | [CO2][L-2] |
| i) Define handicap according to ICD-10 classification. | [CO3][L-3] |
| j) What is grade 3 of neer's classification for humerus fracture? | [CO3][L-2] 2x10 |

PART-A

- Q.2 Elaborate the classification, surgical and physiotherapy treatment objectives, and goals for fracture neck of femur for a female patient of 60 yrs of age. [CO1,3][L-5] **20**
- Q.3 A 29 yrs old male patient had a fall on right outstretched hand and radiograph is showing colles fracture with posterior displacement. Discuss the evaluation, assessment, and physiotherapeutic management protocol for the patient. [CO3][L-5] **20**
- Q.4 What are the components of physical disability? Define the permanent impairment of lower limb in details. [CO4][L-2] **20**

PART-B

- Q.5 Pre and post-operative assessment and rehabilitation of laminectomy at L3 level. [CO2][L-3] **20**
- Q.6 Discuss in details the functional assessment of elderly. Elaborate the ways of sensory motor adaptations for elderly. [CO4][L-2] **20**
- Q.7 Discuss the use, method of application and training for the use of assistive devices for spine in details. [CO4][L-5] **20**

End Semester Examination, Dec. 2021
Master of Physiotherapy (Neurology) – Third Semester
EVALUATION, DIAGNOSIS AND MANAGEMENT IN NEUROLOGY-II
(MPTN-DS-301)

Time: 3 hrs

Max Marks: **100**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1 a) What is Vestibulo-ocular reflex?
b) ASIA scale is used in assessment of _____. Elaborate all the grades.
c) What is Automatic bladder?
d) Write the presenting complains for Quadriplegic CP.
e) What postural corrections can be done in 75 years old PD patient? Justify.

[CO1][L-1]**4x5**

PART-A

- Q.2 Discuss in detail about assessment, evaluation and management of multiple sclerosis based on evidence-based practice. [CO2][L-3]**20**
- Q.3 What are the spinal malformations? Elaborate each of them with related neuropathogenesis, clinical manifestations, diagnosis, and management. [CO3][L-4]**20**
- Q.4 Write and explain about various autoimmune neurological disorders, make a possible differential diagnosis for each of them. [CO4][L-3]**20**

PART-B

- Q.5 What is reflex sympathetic dystrophy? How would you assess the patient for RSD? Write the possible treatment approach to be followed in this case. [CO4][L-2]**20**
- Q.6 Illustrate Functional assessment of the elderly and write in detail about the Conservative pain management of an elderly patient. [CO2][L-5]**20**
- Q.7 Describe the various types of spinal cord injuries. What is role of ASIA Scale in SCI? Write the complete assessment and management for C5 level complete injury. [CO2,4][L-6]**20**

End Semester Examination, Dec. 2021
Master of Physiotherapy (Sports) – Third Semester
EVALUATION, DIAGNOSIS AND MANAGEMENT IN SPORTS-II
(MPTS-DS-301)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

- Q.1
- a) Enumerate four forms of sports massage techniques.
 - b) Enumerate the protective equipment used in boxing.
 - c) Define 'overuse injuries'.
 - d) Give two examples of most commonly overuse injuries seen in fast bowlers in cricket.
 - e) What is Fartlek training?
 - f) Name the principles of training.
 - g) Name any four mechanical device used in sports massage.
 - h) What are four different types of baths?
 - i) Define 'Ergogenic Aids'.
 - j) What is blood doping?
- [CO1,3][L-1]2x10

PART-A

- Q.2 Differentiate between contact and non-contact sports. Discuss the sign, symptoms, risk factors, rehabilitation and protective equipment used for shin splint. [CO1][L-4]20
- Q.3 What recommendation as sports physiotherapist may be suggested to choose the correct protective equipment in sports based on the principles of protective equipment? [CO2][L-2]20
- Q.4 Outline the indications, contraindications and therapeutic effects of sports massage with proper reasoning. [CO2][L-1,2]20

PART-B

- Q.5 Discuss the importance of underwater massage in sports. Write down the properties of water and how they are used in sports rehabilitation and training. [CO2][L-5]20
- Q.6 How is periodization done and why it is beneficial for the sports persons. [CO3][L-1,5]20
- Q.7 What are anabolic steroids? What are their effects? Why it is in banned category? [CO4][L-1,3]20

End Semester Examination, Dec. 2021
OPEN ELECTIVE - COMMON FOR ALL BRANCHES
RECENT TRENDS IN FOODS (ND-OE-001)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against question:

Q.1 Give definition of the following:

- a) Vermi-compost.
- b) Conventional foods.
- c) Ready to serve foods.
- d) Genetic modification.
- e) Nano foods.

[CO1,4][L-1]**4x5**

PART-A

Q.2 Differentiate between 'conventional farming' and 'organic farming'. [CO-1] [L-2] **20**

Q.3 Organic farming plays an important role in food security but has some limitations too. Justify the statement by giving suitable reasons. [CO- 2] [L-5] **20**

Q.4 Genetic engineering in foods can bring advancements in agriculture. How a normal tomato can be modified as cold tolerant tomato by utilizing the genetic make-up of fish?

[CO- 1] [L-2] **20**

PART-B

Q.5 Classify convenience foods on the basis of their processing and ease of consumption. Also give three examples in each category. [CO- 2] [L-4] **20**

Q.6 Illustrate the role of nano-technology in upliftment of Indian food industry. Also discuss its limitations. [CO-4] [L-4] **20**

Q.7 What is the importance and need of convenience foods in our daily life? Discuss with suitable examples. [CO-3] [L-1] **20**

End Semester Examination, Dec. 2021
OPEN ELECTIVE - COMMON FOR ALL BRANCHES
WEIGHT MANAGEMENT (ND-OE-003)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Justify the statement "Energy balance plays a significant role in weight management".
[CO-2] [L-5]**20**

PART-A

Q.2 Illustrate the methods through which obesity can be assessed. [CO-1] [L-4]**20**

Q.3 What is BMI? Discuss the health hazards of obesity. [CO-2] [L-2]**20**

Q.4 What do you understand by the term underweight? Discuss the factors leading to underweight.
[CO-3] [L-3]**20**

PART-B

Q.5 Describe in detail the nutritional management of obesity. [CO-2] [L-2]**20**

Q.6 Explain in detail the nutritional management of underweight. [CO-3] [L-1]**20**

Q.7 What is Fad Diet? Also, discuss the consequences of following such diets regularly.
[CO-4] [L-3]**20**

End Semester Examination, Dec. 2021
OPEN ELECTIVE - COMMON FOR ALL BRANCHES
INTRODUCTIION TO COMMUNITY HEALTH (PT-OE-001)

Time: 2 hrs.

Max Marks: **50**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

- Q.1 a) Define 'public health'. (CO-1,2,L-1)
b) Differentiate between 'communicable' and 'non-communicable' diseases. (CO-1,L-2)
c) What is the importance of exercise in community health? (CO-1,L-3,4)
d) Define 'social medicine'. (CO-3,L-1,2)
e) Explain health promotion. (CO-2,L-1)**2x5**

PART-A

- Q.2 How cultural and language differences act as a barrier to provision of quality care by the health workforce? (CO-1,2,L-2)**10**
- Q.3 Write down the important aspects of health belief model. (CO-2,L-1,2)**10**
- Q.4 Discuss Food insecurity and nutritional access in present day scenario. (CO-3,L-6)**10**

PART-B

- Q.5 What do you understand by Social determinants of health? Present your views. (CO-1,2,L-5)**10**
- Q.6 Elaborate the different theoretical construction of health belief model. (CO-2,L-2)**10**
- Q.7 How does the lack of healthcare access affect population health and patient well-being in a community? (CO-3,L-3)**10**

End Semester Examination, Dec. 2021

OPEN ELECTIVE - COMMON FOR ALL BRANCHES HEALTH AND FITNESS EDUCATION (PT-OE-002)

Time: 3 hrs.

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Answer the following:

- a) Write the name major skeletal muscle responsible for flexion and extension of elbow and knee joint.
- b) Give examples of two free weights used for exercise.
- c) Enumerate four different stretching types.
- d) Define balanced diet with its components.
- e) What do you understand by overtraining syndrome? [CO-2,3] [L-1] **4x5**

PART-A

Q.2 Define 'exercise'. Discuss the effect of exercise on different systems of the body. [CO-1] [L-1] **20**

Q.3 Explain the different training principles of strength training in detail. [CO-2] [L-2] **20**

Q.4 Why Yoga is considered as an effective way for fitness training? Explain in detail. [CO-5] [L-3] **20**

PART-B

Q.5 Analyze the importance of health education in short. Write down its principles. Add a short note on ill effects of alcohol on health. [CO-4] [L-4] **20**

Q.6 What kind of diet/nutrition is required for a Wrestler and Marathon runner? Discuss the different components of balance diet and their functions/effect on the body. [CO-6] [L-2] **20**

Q.7 a) Enumerate the different physical components which are examined. [CO-5] [L-1] **10**

b) Define 'doping'. Write down the different groups under which the drugs are banned. [CO-4] [L-2] **10**